

Let $f(x) = \frac{2x^2 - 4x + 5}{2x^2 - x}$.

Exercise 1 How many vertical asymptotes does f have? .

Exercise 1.1 They are at: (List them in order from left to right)

$$x = \boxed{0} \quad \text{and} \quad x = \boxed{\frac{1}{2}}$$

Exercise 2 What is the end behavior of f ?

$$\begin{aligned} \text{As } x \rightarrow \infty, \quad f(x) &\rightarrow \boxed{1} \\ \text{As } x \rightarrow -\infty, \quad f(x) &\rightarrow \boxed{1} \end{aligned}$$

Exercise 2.1 Which of the following reasons justifies this? (Select all that apply)

Select All Correct Answers:

- (a) The degree of the numerator is less than the degree of the denominator.
- (b) The degree of the numerator equals the degree of the denominator. ✓
- (c) The degree of the numerator is greater than the degree of the denominator.
- (d) It is the ratio of the leading coefficients. ✓

Exercise 3 How many horizontal asymptotes does f have? .

Exercise 3.1 It is at: $y = \boxed{1}$.